

CLAIMS

1. An optical member having planes of incidence and emergence, comprising:

an optical element that changes an optical path of incident light, the optical element being formed on at least one of the planes of incidence and emergence,

wherein a predetermined part of the optical member, selected from the planes of incidence and emergence, has a plurality of minute concavities by which reflection of light incident on the predetermined part is prevented.

2. The optical member according to claim 1, wherein the concavities have a mean depth of 0.05 μm or more and 0.5 μm or less, and a mean distance between neighboring two of the concavities is not more than 0.5 μm .

3. The optical member according to claim 2, wherein the concavities have a mean radius in a direction of plane 0.5 to 2 times the mean depth of the concavities.

4. The optical member according to claim 2, wherein the mean depth of the concavities is 0.2 to 2 times the mean distance between neighboring two of the concavities.

5. The optical member according to claim 1 or 2, wherein, of the optical member, a laminar portion including with the concavities has a percentage of void of 20 to 50%.

6. The optical member according to any of claims 1 to 5, wherein the predetermined part of the optical member, selected from the planes of incidence and emergence, has a plurality of minute protrusions in addition to the plurality of minute concavities.

7. The optical member according to any of claims 1 to 6,

wherein the optical member is for use in a projection screen.

8. The optical member according to claim 7, wherein the optical element is one that allows incident light to follow optical paths approximately parallel to one another.

9. The optical member according to claim 7, wherein the optical element is one that allows incident light to follow dispersed optical paths.

10. An optical member having planes of incidence and emergence, comprising:

an optical element that changes an optical path of incident light, the optical element being formed on at least one of the planes of incidence and emergence,

wherein a predetermined part of the optical member, selected from the planes of incidence and emergence, has a plurality of minute protrusions by which reflection of light incident on the predetermined part is prevented.

11. The optical member according to claim 10, wherein the protrusions have a mean height of 0.05 μm or more and 0.5 μm or less, and a mean distance between neighboring two of the protrusions is not more than 0.5 μm .

12. The optical member according to claim 11, wherein the protrusions have a mean radius in a direction of plane 0.5 to 2 times the mean height of the protrusions.

13. The optical member according to claim 11, wherein the mean height of the protrusions is 0.2 to 2 times the mean distance between neighboring two of the protrusions.

14. The optical member according to claim 10 or 11, wherein, of the optical member, a laminar portion including the protrusions contains the protrusions in a proportion of 20 to

50%.

15. The optical member according to any of claims 10 to 14, wherein the optical member is for use in a projection screen.

16. The optical member according to claim 15, wherein the optical element is one that allows incident light to follow optical paths approximately parallel to one another.

17. The optical member according to claim 15, wherein the optical element is one that allows incident light to follow dispersed optical paths.

18. A process of producing an optical member, comprising:
preparing a mold for molding an optical member comprising an optical element that changes an optical path of incident light, a predetermined part of a surface of the mold having a plurality of minute protrusions that correspond to a plurality of minute concavities which a predetermined part of the optical member, selected from planes of incidence and emergence of the optical member, has;

casting a molding resin upon the surface of the mold having the protrusions to cure the molding resin; and

releasing the cured molding resin from the mold, thereby taking out the optical member having a plurality of minute concavities in its predetermined part.

19. A process of producing an optical member, comprising:
preparing a mold for molding an optical member comprising an optical element that changes an optical path of incident light, a predetermined part of a surface of the mold having a plurality of minute concavities that correspond to a plurality of minute protrusions which a predetermined part of the optical member, selected from planes of incidence and emergence of the optical member, has;

casting a molding resin upon the surface of the mold

having the concavities to cure the molding resin; and
releasing the cured molding resin from the mold, thereby
taking out the optical member having a plurality of minute
protrusions on its predetermined part.